Amendment to the Claims:

The claims under examination in this application, including their current status and changes made in this paper, are respectfully presented.

1 (canceled).

2 (canceled).

3 (currently amended). A MAP decoding method for ~~bi-directionally~~ processing a block of data in a sequence of blocks of data, according to at least one sequencing constraint, the block of data comprising contiguous partial blocks of data, the method comprising the steps of, for each of a plurality of the partial blocks of data:

sequentially processing data elements of the partial block in a first direction, after first processing, in said first direction, prolog elements from an adjacent partial block in accordance with said sequencing constraint; and

sequentially processing said data elements of the partial block in a second direction, after first processing, in said second direction, prolog elements from an adjacent partial block in accordance with said sequencing constraint.

4 (original). The method of Claim 3, wherein the processing of data elements in the first direction, and the processing of data elements in the second direction are done in parallel.

5 (currently amended). The method of Claim 3, ~~wherein each step of processing data elements comprises a sequence of operations to be performed on each partial block of data; and~~ wherein each of step of processing data elements is pipelined so that a plurality of the operations in the sequence operate in parallel on different blocks.

6 (currently amended). A method for parallel MAP processing of a lattice-coded block of data, comprising the steps of:

dividing the data into contiguous sliding window blocks, and, for each of multiple ones of said sliding window blocks,

a) sequentially processing the elements of the respective sliding window block in a first direction, after first processing, in said first direction, prolog elements from an adjacent sliding window block in accordance with a sequencing constraint; and

b) sequentially processing the elements of the respective sliding window block in a second direction, after first processing, in said second direction, prolog elements from an adjacent sliding window block in accordance with said sequencing constraint;

wherein said steps a) and b) are performed at least partly in parallel with each other.

7 (previously presented). The method of Claim 6, wherein at least one of steps a) and b) comprises a sequence of operations to be performed on each sliding window block;

and wherein the at least one of steps a) and b) is pipelined so that a plurality of the operations in the sequence operate in parallel on different sliding window blocks.

8 (currently amended). The ~~A~~ method ~~for parallel MAP processing on a plurality of sliding window blocks of data, comprising the steps~~ of claim 6, wherein the step of sequentially processing the elements of the respective sliding window block in the first direction comprises:

~~a)~~ combining probability metrics on a first sliding window block of data in at least one adder tree; and

~~b)~~ performing a maximum-finding operation on a first previous sliding window block of data to combine ones of said metrics that correspond to alternative possibilities;

wherein the combining step and the step of performing a maximum-finding operation ~~said steps a) and b)~~ are at least partly performed in a parallelized pipeline relationship with each other.

9 (original). The method of Claim 8, wherein the maximum-finding operation is an exponent-logarithm equation.

10 (original). The method of Claim 8, wherein the maximum-finding operation is an estimation of an exponent-logarithm function.

11 (currently amended). The method of claim 8, wherein the step of sequentially processing the elements of the respective sliding window block in the first direction further ~~comprising~~ comprises:

~~c)~~ performing a normalization operation on the results of said maximum-finding operation ~~step b)~~ on a second previous sliding window block of data;

wherein the combining step, the step of performing a maximum-finding operation, and the step of performing a normalization operation ~~said steps a), b), and c)~~ are at least partly performed in a parallelized pipeline relationship with each other.

12 (original). The method of Claim 11, wherein the maximum-finding operation is an exponent-logarithm equation.

13 (original). The method of Claim 11, wherein the maximum-finding operation is an estimation of an exponent-logarithm equation.

14 (canceled).